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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,073	02/18/2004	Elizabeth Foster	END919970054US4 (IEN-10-5)	1851
26681	7590	08/24/2004	EXAMINER HAMILTON, CYNTHIA	
DRIGGS, LUCAS BRUBAKER & HOGG CO. L.P.A. DEPT. IEN 8522 EAST AVENUE MENTOR, OH 44060			ART UNIT 1752	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,073

Applicant(s)

FOSTER ET AL.

Examiner

Cynthia Hamilton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 3-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3 in line 1 reference is made to "the epoxy resin" of claim 1. There is no clear antecedent basis for the use of "the epoxy resin" here because claim 1 has several possibilities that could be considered an "epoxy resin". There is the photoimageable dielectric epoxy resin system film, there is the epoxidized multifunctional bisphenol A formaldehyde novolac resin and there is the "liquid epoxy resin". Claim 4 is dependent upon claim 3. Claims 5-6 has the same problem as claim 3 and Claim 7 is dependent upon claim 6. Thus, the limits being set by claims 3-7 are confusing. The examiner believes applicants mean the film of claim 1 but she is unsure.

3. Claims 1-2 are allowed.

4. The examiner notes for the record with respect to these claims.

- a. The claims in this application as filed are not those claimed in the original parent application. All original claims were references with respect to 95% to 100% solids.
- b. Applicants do not define what is "solids" in their specification. Maeda et al (4,948,700) defines it in col. 5, last full paragraph, in regard to similar protective layers as "The polymerizable compound can be used in amount of 10 to 60 parts by weight of solid components (the remaining total composition other than the organic solvent) in the liquid light-sensitive resinous composition." Hiesh et al (5,008,175) reference in col. 3, lines

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18-24, their percent as "... relative to the non-volatile constituents (solids) of the light sensitive mixture." Palazzotto et al (4,985,340) in their first paragraph of

BACKGROUND OF THE INVENTION state

"Various polymeric coatings and articles are produced in processes involving the use of organic solvents. There is an intense effort by law makers, researches, and industry to promote high and 100% solids formulations to reduce or eliminate the use of such solvents and the attendant costs and environmental contamination.

These processes require a latent catalyst or latent reaction promoter which can be activated in a controlled fashion."

Shipley, Jr. et al defines in [0025] "the term total solids of a composition refers to all components of a composition other than a solvent carrier when such a solvent is used. When one of the components of the composition solvates the remaining components, then percent solids means all of the composition." Shipley, Jr. et al addresses epoxy dielectric materials like that of applicants. Applicants make use of liquid epoxy resins in their "solid" component as evidenced by referencing such on page 4 as part of their epoxy resin which is part of the solids of their compositions. Thus, the examiner has taken solids in the original claims in the parent application to mean all components of a composition except those which are volatile (under the instant processing conditions) such as an organic solvent. The examiner holds that this is what one skilled in the art would understand the meaning of "from about 95% to about 100% solids" in the original claim language to reference.

c. The examiner notes that the primary reason for allowance is the limitation of the instant composition of the liquid epoxy resin to be present in a minimum of about 15%. The prior art does not address adding this much to their dried film. IBM (Improved) used about 6% by weight in the only example but made no statement that 6% was the limit. Applicants require about 15%. Day et al ('624) cited by Lauffer et al is the parent application of Day et al ('766). Day et al teach similar compositions wherein the liquid epoxy is only an optional component along with Epon 826 which is one of applicant's choices for liquid epoxy. In Day et al ('766), see particularly col. 6, and abstract. These optional components are again used as plasticizers in the same fashion IBM (Improved) uses ERL-4221. Day et al ('766) clearly allows the addition of ERL-4221 up to about 10% at the bottom of col. 6 as plasticizer. Thus the use of up to about 10% of ERL-4221 in the dry resist films of IBM (Improved) to improve flexibility of the dry film would have been prima facie obvious. However, there is no motivation to go to about 15% as set forth by applicants in their current claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cynthia Hamilton
Primary Examiner
Art Unit 1752

August 22, 2004

CYNTHIA HAMILTON
PRIMARY EXAMINER